Micro-variation as a tool for Linguistic Analysis

Jan Don (UvA), Paula Fenger (UvA) & Olaf Koeneman (Radboud University Nijmegen)

1. Introduction A morphological analysis of the present tense agreement paradigm of Standard Dutch (cf. 6a) must capture two facts. First, it contains three affixes occurring in different environments: the -ø affix occurs in 1sg contexts, the *–t* affix occurs in 2sg and 3sg contexts, and *–en* occurs in the plural. Here, a multitude of analyses is possible, and have been proposed, using different spell out rules, different sets and types of features and different defaults. Second, the *–t* affix disappears in 2sg inversion orders, i.e. when the subject follows the verb (*loop jij* instead of *loopt jij*). Such inversion morphology has been analyzed as evidence for a double paradigm (Bennis & MacLean 2006), and as evidence for impoverishment rules that are activated in the inversion order (Ackema & Neeleman 2003, 2012). It has proven very hard to empirically decide what the best analysis is for these data. Although one may conceptually prefer certain analyses over others, we think it is possible to make an empirically-informed choice.

By looking at the well-documented and multi-varied patterns of inflection in the various Dutch dialects, we can successfully limit the analytical freedom and arrive at some surprising conclusion as to the proper analysis of the standard Dutch paradigm. This variation is documented in the *Syntactische Atlas van Nederlandse Dialecten* (SAND, Barbiers et al 2005), which comprises subject agreement data of the verb *leven* 'to live' from 267 measuring points in the Dutch speaking parts of the Netherlands and Belgium, including the inversion paradigms.

2. Using micro-variation as a tool Although the variation is quite bewildering, four exceptionless generalizations can be formulated pertaining to paradigm structure, limiting the variation. We propose they should restrict the number and nature of possible analyses. The rationale is as follows: If linguists and children alike are reasonably free in the morphological analyses that they may entertain, it is possible to provide an analysis that is compatible with the morphological data for a particular language variety, such as Standard Dutch, but it leaves the generalizations unexplained. Now, it is fairly well established that the variation we now observe among Dutch dialects is an inter-play of phonological erosion processes and reanalyses of subject clitics into agreement affixes. Since in principle any agreement ending in the paradigm slot can be the result of phonological erosion or reanalysis, these processes themselves can at most account for the variation but not for the generalizations we observe, especially not since these generalizations pertain to paradigm structure and do not refer to the concrete morphological shape of the affixes. The restrictions must be a consequence of the fact that, at any synchronic point in time, the language acquirer has to map the phonological endings in the input onto a concrete morphological subject agreement paradigm. If so, the restrictions are a consequence of the fact that in this mapping procedure not every possibility is readily entertained by the child. The consequence of this rationale is that any analysis of a particular variety, such as Standard Dutch, must now be compatible with the intra-paradigmatic restrictions we observe, thereby restricting the analytical possibilities. As a side effect, we get a step closer to a realistic algorithm that children use to acquire morphological paradigms.

The generalizations we find are given below.

(1) *Generalization 1*
If in the inversion order an affix appears that is not present in the straight order of that dialect, this affix is invariably a null form.

(2) *Generalization 2*
The affixes associated with 3SG and 3PL contexts in the straight order are never replaced by another affix or reduced to zero in the inversion order, in contrast to affixes associated with 1st and 2nd person contexts, singular or plural. (for the zero patterns, cf. (6a)-(6c)).

(3) *Generalization 3*
Although the affix associated with 3SG can never be dropped in the inversion order, it is dropped without exception in past tense contexts.

(4) *Generalization 4*
If in 2sg contexts inversion morphology occurs, the inversion morpheme is never syncretic with the 3sg morpheme.

An analysis in which V-SU orders trigger particular impoverishment operations à la Ackema & Neeleman readily captures generalization 1. The fact that no new affixes make their appearance in the inversion order is because inflection in the inversion order is an 'impoverished' version of the straight word order paradigm. Hence, impoverishment leads to insertion of a less specific affix, or no affix if no realization rule can apply anymore. The double paradigm theory does not exclude the appearance of new overt affixes in inversion orders and since this never occurs, we abandon this option.

The impoverishment theory, however, has little to say about Generalizations 2-4, although the fact that 3sg *–t* never disappears in inversion can in principle be captured by saying that *–t* is a default. Since a default does not spell out a feature, there is no feature that can be impoverished in inversion order which subsequently blocks *–t* insertion. However, we think this is the wrong move for three reasons: (i) It means that 2sg *–t* must be a different *–t* in Standard Dutch as 2sg *–t does* drop in inversion, which is unelegant; (ii) If 3sg *–t* never disappears in inversion because it is a default (Generalization 2), why can it never show up in 3sg past contexts (Generalization 3)?; (iii) If *–t* is a default, why does it never spread to 1sg and 2sg contexts in inversion after impoverishment of features in those contexts (Generalization 4)? Hence, *–t* must be a default (given its permanence in inversion contexts) and cannot be a default (given the past tense facts). This paradox must be solved.

3. The analysis We propose that all four generalizations are captured with the following analysis of Standard Dutch. The *-ø* affix spells out [speaker], the *–en* affix [plural] and the *–t* is inserted simply because the verb needs an affix. We formulate this meta-paradigmatic constraint as in (5):

(5) Finite verb: stem +affix^{n} ($n \geq 1$)

In the inversion order, this *–t* is not needed in 2sg because the 2sg post-verbal subject is interpreted as a 'potential affix', making *–t* insertion redundant. To be considered a 'potential affix', a constituent must appear to the right of the verbal stem because Dutch has suffixes, not prefixes. That is why subject pronouns can only satisfy (5) in inversion order. Second, a constituent must *always* appear there because subject agreement in Dutch is obligatory. Now, 1st and 2nd person pronouns will always appear to the right of the verb in inversion order, but 3rd person pronouns are always in complementary distribution with lexical DPs and therefore do not qualify as constituents that can satisfy (5). This derives Generalization 2 since only in 1st and 2nd person contexts is the affix not needed. It also derives Generalization 3: *–t* can never be inserted in past tense contexts because (5) is already satisfied there by the past tense affix, which renders *–t* insertion superfluous. Lastly, Generalization 4 is derived: since in 1st and 2nd person contexts the subject pronoun satisfies (5), *–t* never spread to these contexts. What was possible in a default analysis of *–t* is now correctly blocked.

One interesting prediction follows. In dialects in which the *–t* affix is more prominently used in the straight order, namely also in plural contexts, this *–t* is now naturally analyzed as an affix that is inserted to satisfy (5). We expect that this *–t* can now be subsequently dropped in inversion contexts but limited to 1st and 2nd person. This is exactly what we find: The patterns in (6c-d) are readily attested but a dialect in which the *–t* is dropped in any of the 3rd person contexts is not attested.

4. Conclusion The micro-comparison provides ample evidence for an impoverishment analysis of inversion morphology, and thereby strong evidence for a post-syntactic, anti-lexicalist theory. In addition, it provides evidence for the constraint on finite verbs in (5), which is purely morphological, thereby providing support for an independent morphological module. In the remainder of this talk, we will discuss the notion of a 'potential affix' in more detail and suggest ways in which this can be understood and motivated, synchronically and diachronically.

(6)

Variety	**a. Standard Dutch**		**b. Gistel**		**c. Zuid-Sleen**		**d. Enter**	
Order	SU-V	V-SU	SU-V	V-SU	SU-V	V-SU	SU-V	V-SU
1sg	-ø	-ø	**-en**	**-ø**	-ø	-ø	-e	-e
2sg	**-t**	**-ø**	-t	-ø	-t	-ø	-t	-ø
3sg	-t	-t	-t	-t	-t	-t	-t	-t
1pl	-en	-en	-en	-ø	**-t**	**-ø**	-t	-ø
2pl	-en	-en	-t	-ø	**-t**	**-ø**	-t	-ø
3pl	-en	-en	-en	en	-t	-t	-t	-t